

L Number	Hits	Search Text	DB	Time stamp
1	7	(("6482584") or ("D461248") or ("5899939") or ("6123731")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 07:49
2	8	(("6482584") or ("D461248") or ("5899939") or ("6123731") or ("6613278")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:02
4	4	wo-0040177\$.did. or wo-0029037\$.did. or wo-9938543\$.did. or wo-0054821\$.did. or wo-9909914\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:05
5	4	wo-00/40177\$.did. or wo-00/29037\$.did. or wo-9938543\$.did. or wo-00/54821\$.did. or wo-9909914\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:08
6	7	wo-200040177\$.did. or wo-200029037\$.did. or wo-9938543\$.did. or wo-200054821\$.did. or wo-9909914\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:09
7	16	((("6025538") or ("5814084") or ("6090998") or ("5676700") or ("6200347"))).PN.) or (wo-200040177\$.did. or wo-200029037\$.did. or wo-9938543\$.did. or wo-200054821\$.did. or wo-9909914\$.did.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:41
8	109	(maglione.xp. or mcdermott.xp.) and heparin	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 10:43
9	6	(maglione.xp. or mcdermott.xp.) and heparin and (smith-chalin\$.xa.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:28
10	1371	maglione.xp. or mcdermott.xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 10:43
11	772	prebilic\$.xa, xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:08
12	780	preb\$.xa, xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:10
13	0	623/23.51,23.56,23.63	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:41
14	275	(623/23.51,23.56,23.63).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:31
15	756	(623/17.11,17.16).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:49
16	1012	((623/23.51,23.56,23.63).CCLS.) or ((623/17.11,17.16).CCLS.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:53
17	7732	pin same bone	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:54

18	37	pin same bone and 623/\$.ccls. and preb\$.xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:54
3	10	(("6025538") or ("5814084") or ("6090998") or ("5676700") or ("6200347")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:58
19	21	("2621134"   "4135506"   "4512038"   "4553272"   "4950296"   "4964865"   "5084051"   "5152791"   "5201771"   "5314478"   "5354300"   "5397362"   "5674286"   "5728157"   "5769897"   "5820581"   "5876453"   "5899939"   "5916585"   "5989289"   "6025538").PN.	USPAT	2003/10/30 13:58
20	8	6200347.URPN.	USPAT	2003/10/30 14:02

Document ID	Kind	Issue Date	Page	Title
US 6638309 B2	U	20031028	17	Method of
US 6379385 B1	U	20020430	15	Implant of
US 20020035401	U	20020321	15	Osteoinductive
US 20020029084	U	20020307	42	Bone implant
US 6146420 A	U	20001114	12	Osteoinductive
US 5861041 A	U	19990119	11	Intervertebral
US 4950296 A	U	19900821	4	Bone graft

**United States Patent** (15)  
McIntyre

(11) Patent Number: 4,950,296  
(43) Date of Patent: Aug. 21, 1990

(14) BONE GRAFTING UNITS

(16) Inventor: Jonathan L. McIntyre, 2384 Grove View Rd., San Diego, Calif. 92139  
(21) Appl. No.: 343,766  
(22) Filed: Jan. 13, 1990

Related U.S. Application Data

(63) Continuation-in-part of Ser. No. 179,291, Apr. 7, 1994,

abandoned.

(31) Int. Cl. — ASY 2/28

(52) U.S. Cl. — 623/16, 606/76

(58) Field of Search — 623/16, 66, 17;

126/92 R, 924 R, 924 O, 924 X, 924 S, 606/67;

70, 76, 86

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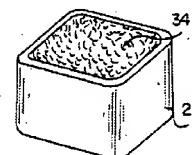
1805587 6/1984 Fed. Rep. of Germany — 623/14  
1309915 3/1997 U.S.S.R. — 623/16

Primary Examiner—Alan Cannon  
Attorneys, Agents or Firms—Baker, Matham, Jenner &  
Mandor

(17) ABSTRACT

A bone grafting unit comprises a cortical shell having a selected outer shape and size for transplanting and a cavity formed therin for receiving a cancellous plug. The cancellous plug fits into said cavity in a manner to expose at least two surfaces thereof to the exterior of said shell.

15 Claims, 1 Drawing Sheet



10/30/03 Best Art subclass search

Document ID	Kind	Issue Date	Page	Title
WO 200029037 A	D	20030902	33	Apparatus
US 20020016592	D	20030724	51	Cortical
EP 876129 B	D	20030516	11	Diaphysial
US 6090998 A	D	20021205	15	Implant
US 6200347. B1	U	20010313	48	Composite
WO 200054821 A	D	20000921	52	Molded imr
US 6090998 A	U	20000718	15	Segmental
US 6200347. B	D	20000719	48	Composite
US 6025538 A	U	20000219	16	Compound
US 6025538 A	D	20000219	16	Compound
WO 9938543. A2	AE	19990805	37	BONE PASTE
US 20020018796	D	19990805	13	Implantabl
WO 9909914 A1	E	19990304	60	CORTICAL
US 5814084 A	U	19980929	11	Diaphysial
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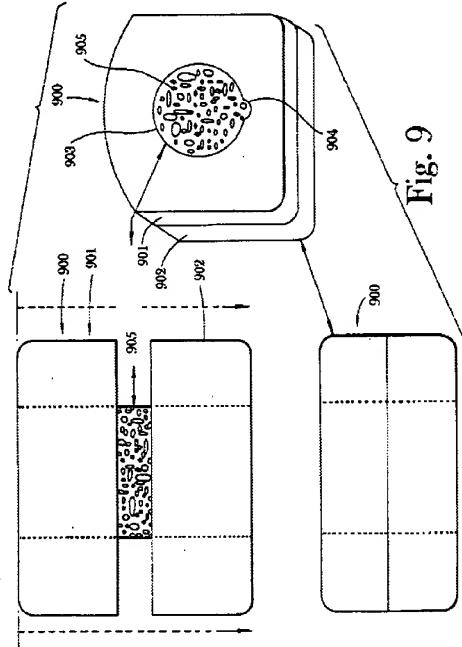


Fig. 9

	Document ID	Issue Date	Page	Title
1	US 6638309 B2	U 20031028	17	Method of us
2	US 20020120346	U 20020829	25	Demineralized
3	US 20020035401	U 20020321	15	Osteogenic i
4	US 20020029084	U 20020511	1	Bone graft
5	US 20010014942	U 20011115	7	Novel compos
6	US 20010002446	U 20010531	11	Tissue graft
7	US 4950296 A	U 19900821	4	Bone graftin

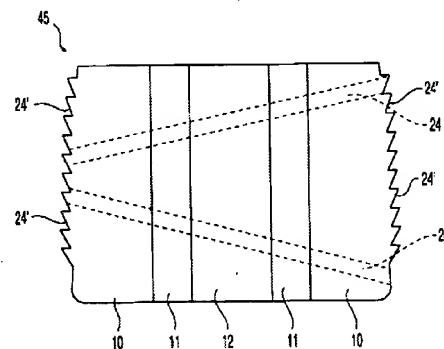


Fig. 2C

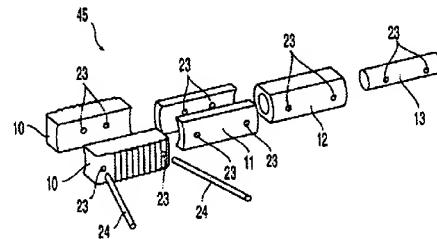


Fig. 2D

	Document ID	MSL-Issue-Date	Page	Title
1	WO 200029037 A	D 20030902.33		Apparatus for
2	US 2002016592 A	D 20030724.51		Cortical bone
3	EP 876129 B	D 20030516.11		Diaphysial de
4	US 6090998 A	D 20012105.15		Implant for
5	US 62003471 B1	U 20010313.48		Composite bone
6	WO 20050421 A	D 20000921		Molded implant
7	US 6090998 A	D 20000718.15		Semiglobular
8	US 6200347 B	D 20000713		Composite bone
9	US 6025538 A	D 20000215.16		Compound bone
10	US 6025538 A	D 20000215		Compound bone
11	WO 9938543 A2	AE 19990805.37		BONE PASTE S
12	US 20020018796	19990805		Implantable
13	WO 9909914 A1	E 19990304		CORTICAL BON
14	US 5614084 A	U 19990829.11		Diaphysial
15	US 5676700 A	E 19971014.8		Interlocking
16	EP 709070 A	D 19960501		Interlocking

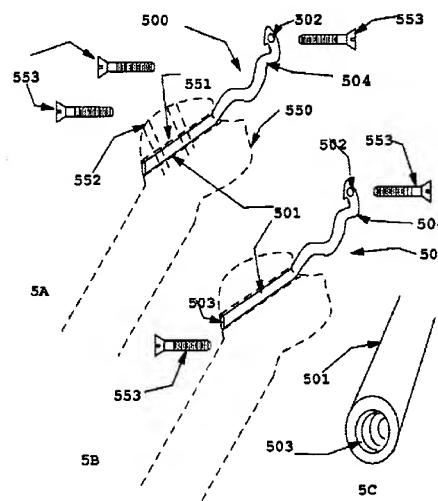


FIGURE 5

Document ID	Issue Date	Page	Title
1. US 6635087 B2	U 20031021	23	Laminoplasty
2. US 6632247 B2	U 20031014	31	Implants for
3. US 6595998 B2	U 20030722	39	Tissue distr
4. US 6554863 B2	U 20030429	14	Intervertebr
5. US 6494883 B1	U 20021217	10	Bone reinfor
6. US 6458144 B1	U 20021001	13	Methods for
7. US 6387130 B1	U 20020514	15	Segmented li
8. US 6379385 B1	U 20020430	5	Implant of b

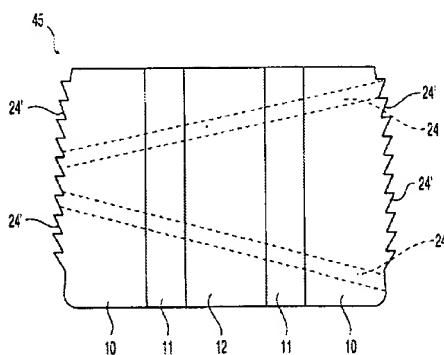


Fig. 2C

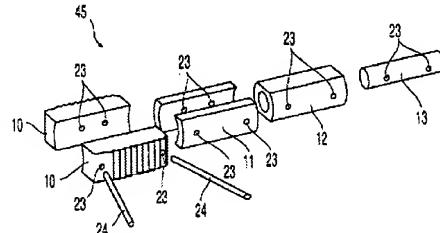


Fig. 2D

Document ID	USC	Issue Date	Page	Title
1 US 5329846 A	U	19940719	19	Tissue pre
2 US 5397365 A	U	19950314	12	Composite
3 US 5496372 A	U	19960305	54	Hard tissu
4 US 5522895 A	U	19960604	6	Biodegradab
5 US 5522894 A	U	19960604	14	Bone repla
6 US 5545222 A	U	19960813	19	Method usi
7 US 5591233 A	U	19970107	14	Metal/com
8 US 5645592 A	U	19970708	13	Use of hyc
9 US 5662710 A	U	19970902	16	Tissue pre
10 US 5769897 A	U	19980623	1	Synthetic
11 US 5800544 A	U	19980901	25	Tendon and
12 US 5888219 A	U	19990330	16	Method of
13 US 5899939 A	U	19990504	8	Bone-deriv
14 US 6005162 A	U	19991221	7	Methods of
15 US 6017366 A	U	20000125	1	Resorbable
16 US 6027534 A	U	20000222	10	Modular ej
17 US 6065476 A	U	20000523	11	Method of
18 US 6080192 A	U	20000627	34	Tendon anc
19 US 6113640 A	U	20000905	12	Reconstruc
20 US 6123731 A	U	20000926	14	Osteoimpla
21 US 6132472 A	U	20010117	16	Tissue pre
22 US 6190414 B1	U	20010220	19	Apparatus
23 US 6217620 B1	U	20010417	11	Reinforci
24 US 6290725 B1	U	20010918	16	Modular ej
25 US 6294041 B1	U	20010923	13	Method for
26 US 6342051 B1	U	20020129	6	Treatment
27 US 6361565 B1	U	20020326	16	Expandable
28 US 6387131 B1	U	20020514	5	Knee prost
29 US 6436138 B1	U	20020820	12	Process fo
30 US 6458160 B2	U	20021001	17	Knee prost
31 US 6503277 B2	U	20030107	17	Method of
32 US 6517579 B1	U	20030211	10	Method anc
33 US 6527803 B1	U	20030304	18	Intersomat
34 US 6585771 B1	U	20030701	7	Device for
35 US 6616698 B2	U	20030909	16	Bone graft
36 US 6630000 B1	U	20031007	19	Method of
37 US 6638309 B2	U	20031028	17	Method of

## United States Patent [15]

Demopoulos et al

US005800544A

(11) Patent Number: 5,800,544

(45) Date of Patent: Sep. 1, 1998

## [16] TENDON AND LIGAMENT REPAIR SYSTEM

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Primary Examiner-Paul B. Preble

Attorney, Agent, or Firm-Christensen, O'Conor, Johnson &amp; Klundt PLLC

## [37] ABSTRACT

The damaged portion of an injured tendon or ligament (C) (Connective cord) is inserted into a fluid, hollow sleeve (S).

(100, 110, 120, 130, 140, 160, 180, 200, 240, 260, 270, 300, 390, generically designated "S") and is connected to the sleeve (S) such that the cord (C) is held in the sleeve (S) and can withstand tensile forces. The interconnections can be mechanical, such as by pins (22, 22, 140, 150, 160, 180, 190, 200, 260, 210, 220, 230, 230, 260, 280, 300) extending through the sleeve (S) and cord (C). The sleeve (S) can be biodegradable over a sufficiently long period of time that the cord (C) is healed by the time the sleeve (S) is absorbed.

179 Claims, 19 Drawing Sheets

